PowerWind

US community wind market

Indianapolis, July 21th 2010

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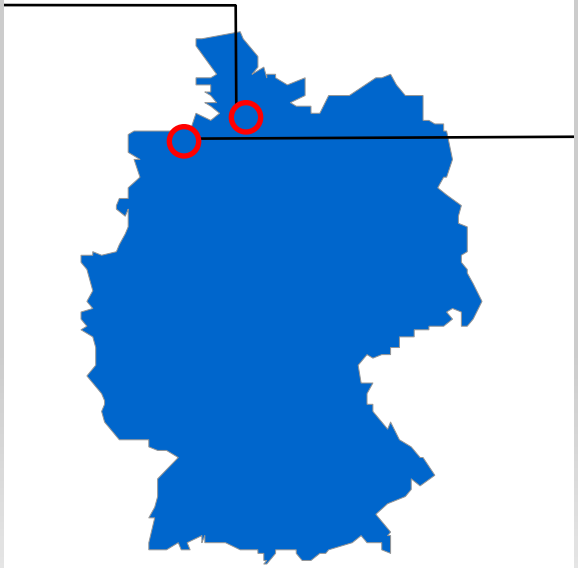
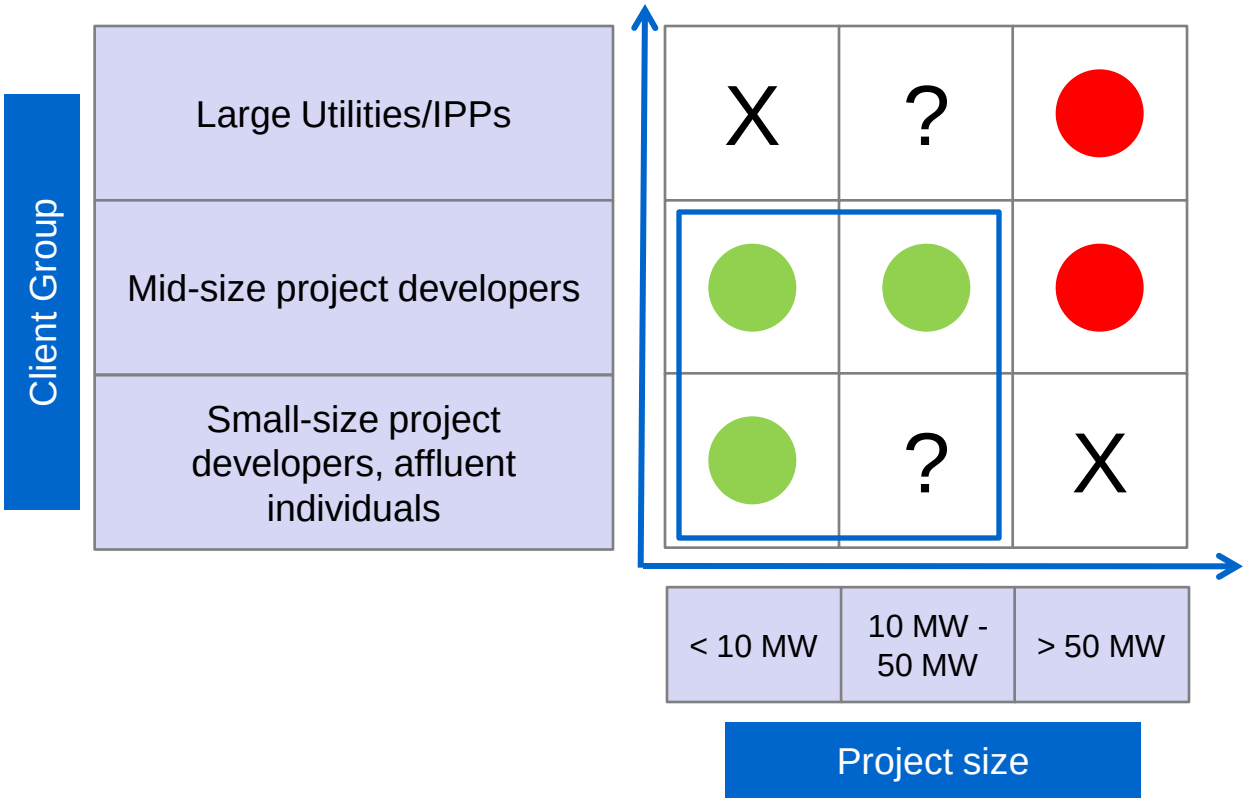
PowerWind GmbH is a German manufacturer and service provider of wind turbines based in Hamburg and Bremerhaven

- Headquarter based in Hamburg
- 112 employees
- General Management
- Sales
- Research & Development
- Procurement
- Quality Management



- Production based in Bremerhaven
- 28 employees
- Manufacturing
- Service
- Training
- Capacity 400+ units

PowerWind‘s focus is on small to mid-sized projects up to 50 MW and their typical customers: „community scale“



PowerWind turbines - Robust mechanical engineering combined with state-of-the-art power electronics

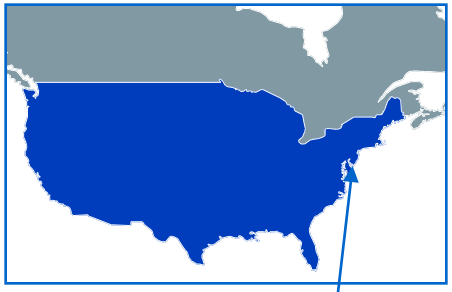
PowerWind 56

- Rated power: 900 kW
- Rotor diameter: 56m
- Certification: IEC IIA
- Full scale converter
- Hub height: 59m and 71m

PowerWind 90

- Rated power: 2500 kW
- Rotor diameter: 90m
- Certification: IEC IIA
- Full scale converter
- Hub height: 80-100m

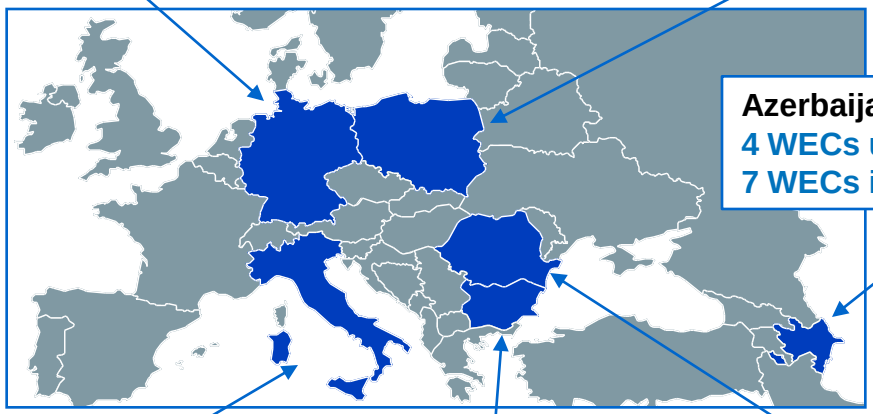
25 WECs up and running, 11 WECs under construction and 56 more WECs sold as of July, 2nd



USA:
1 WEC sold
20 WECs in negotiation

Germany:
2 WECs up and running
2 WECs sold
6 WECs in negotiation

Poland:
3 WECs up and running
6 WECs sold
23 WECs in negotiation



Azerbaijan:
4 WECs under construction
7 WECs in negotiation

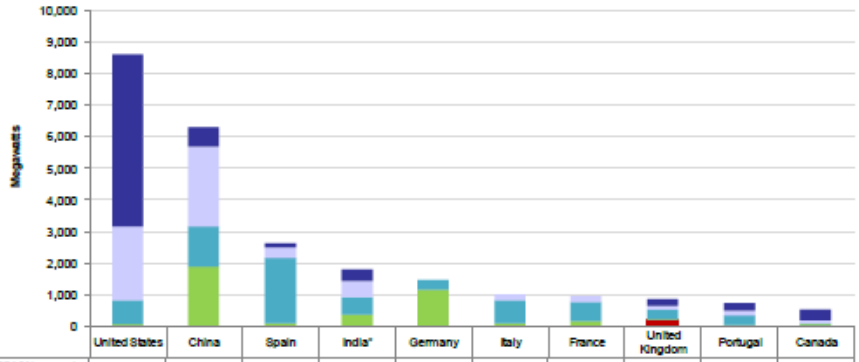
Italy:
17 WECs up and running
7 WECs under construction
47 WECs sold
81 WECs in negotiation

Bulgaria:
1 WEC up and running
12 WECs in negotiation

Romania:
2 WEC up and running
12 WECs in negotiation

First research results showed very big project size and no market for sub-megawatt turbines.

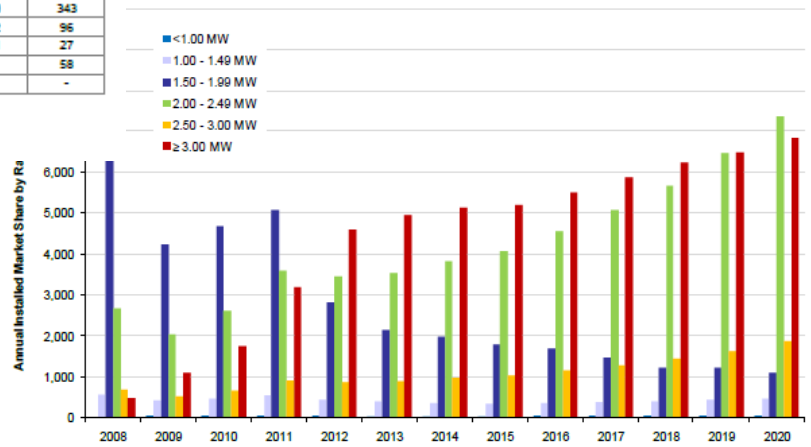
Exhibit 3-19: Project Size Installed 2008 Breakdown, Top 10 Markets by MW Installed



	United States	China	Spain	India*	Germany	Italy	France	United Kingdom	Portugal	Canada
100 MW or greater	5,460	630	114	360	-	-	-	209	240	343
50 MW - 99 MW	2,335	2,520	330	540	-	184	190	120	142	96
10 MW - 49 MW	753	1,260	2,092	540	280	730	608	290	311	27
Less 10 MW	68	1,890	78	360	1,165	96	152	30	31	58
Offshore	-	-	-	-	-	-	-	194	-	-

Note: India estimate based on 60% of installed projects
Source: Emerging Energy Research

North America Wind Turbine Forecast by Turbine Size: 2008–2020



Source: Emerging Energy Research

Community scale sees great potential due to a mix of improved economics, a change of thinking towards „green“ and a strong will to be independant

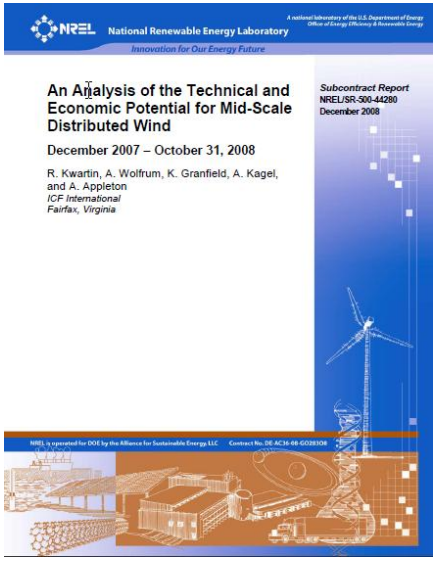
Very good market potential due to

- Rising awareness of “green” movement. People want to be part of it.
- Desire for self-generation
- Rising will of keeping added value locally - Community Wind movement
- Governmental incentives became available
- Transmission Line capacity constraints
- Turbines become available for smaller projects

Community scale projects can vary between small distributed projects to mid-size utility projects

- On-Site Generation
  - Behind the meter
- Community Wind
  - Local ownership of small projects
- IPP Projects of 20MW or less
  - ‘Traditional’ wind farm model, but on a smaller scale
- Utility Ownership of small projects, 20MW or less
  - Rural Electric Co-Ops

Steady demand and expert opinion showed that smaller projects have a very good market potential especially aside the wind belt



Analysis results in **around 60,000 potential project** sites for distributed wind generation

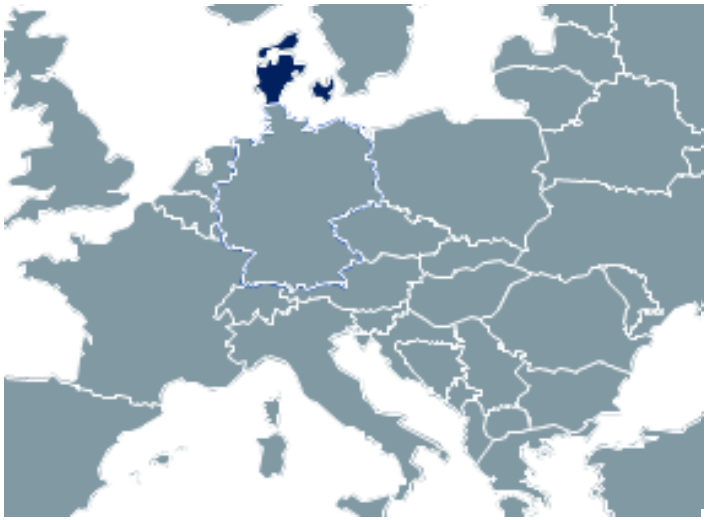
Distributed wind energy projects with a typical projects size of smaller 5 MW have been little during the last years due to

- Challenging project financials
- Turbine shortages
- Lack of regulatory support

European community wind example: Candela

Location	Candela, Italy
Installed capacity	2 x 900 kW PowerWind 56 (71m)
Ownership	Private Investor
Power Off-Set	Sales of electricity and green certificates
Interconnection	20 kV

European community wind example: Middelgrunden



Middelgrunden wind farm. Hans Chr. Soerensen.

Location	Middelgrunden, Denmark
Installed capacity	40 MW (20 x 2 MW AN) offshore
Ownership	Middelgrunden Wind Cooperative (8500 investors)/ Copenhagen Energy
Installation	March 2001

Thank you for your attention

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